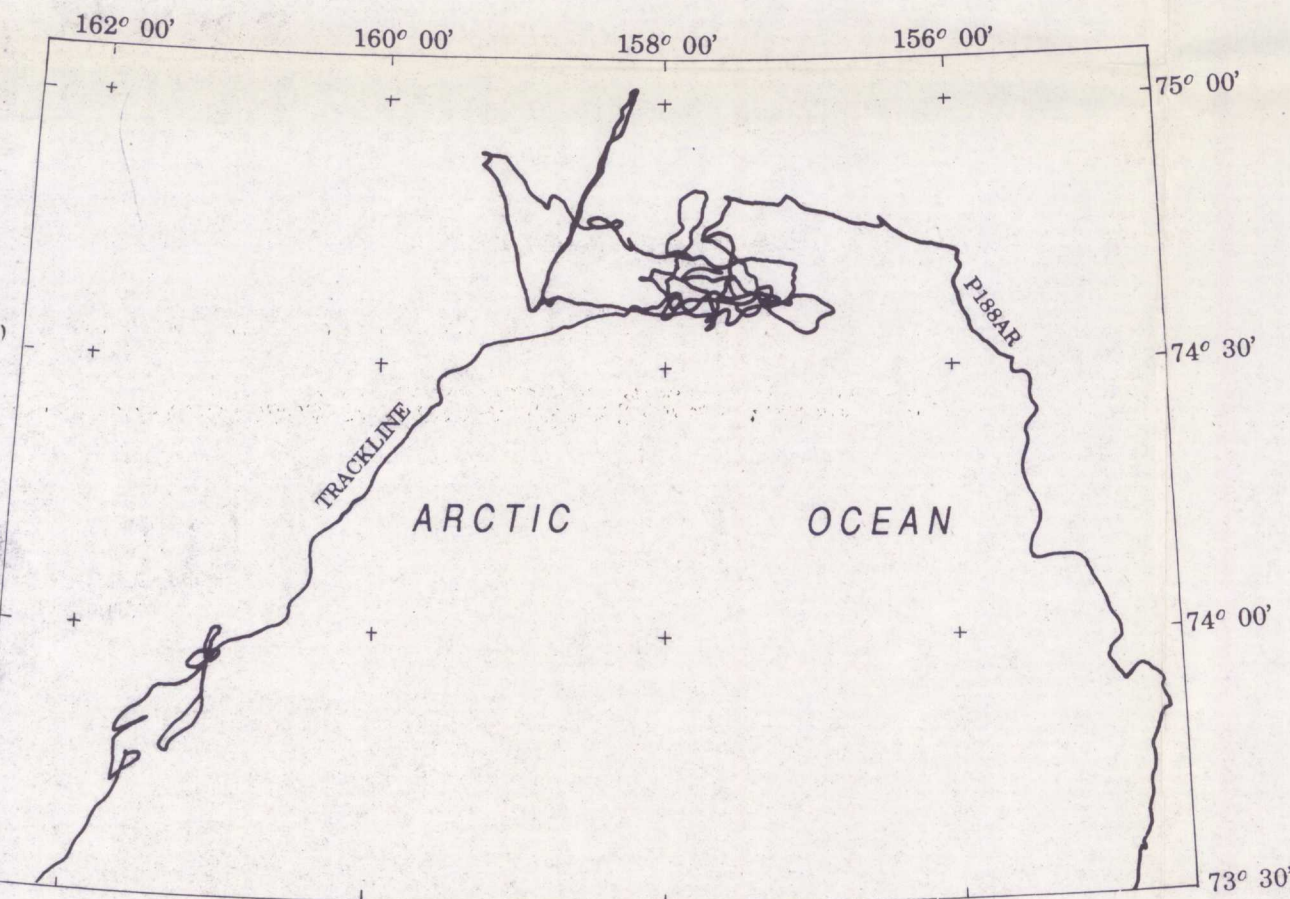


Index map showing location of mapped area with respect to northern Alaska



Location of U.S. Geological Survey bathymetric data in mapped area gathered from U.S.C.G.C. *Polar Star* in September, 1988. Other data sources listed in References Cited

DATA SOURCES

The "Bathymetric map of the southern Northwest Ridge and vicinity, Arctic Ocean" is based on new data acquired during surveys conducted by the U.S. Geological Survey in 1988 from the USCGC *POLAR STAR*, and other data sets resurveyed in view of the 1988 data. Bathymetric data were collected with a 12-kHz echo sounding system, and navigation was by Global Positioning System (GPS) satellite supplemented with integrated satellite navigation when GPS satellites were out of range. The trackline of the 1988 cruise is shown on the index map. The older data sets are summarized in Hill and others (1984) and Perry and others (1985).

USES OF THIS MAP

The bathymetric map was prepared as a base for displaying physiographic and geologic data of the U.S. Geological Survey on the continental shelf, slope, and rise north of Alaska and adjacent Arctic Ocean basin. It was not designed to serve as a chart for navigation.

DATUM AND SOURCES OF ERROR

The datum and sources of error are discussed in Grantz and Mullen (1991). Sources of error for new data collected in 1988 are electronic noise and water column inhomogeneities, commonly estimated to produce random errors of about 1 or 2 percent, and nonvertical echoes.

CONVERSION OF REFLECTION TIME TO WATER DEPTH

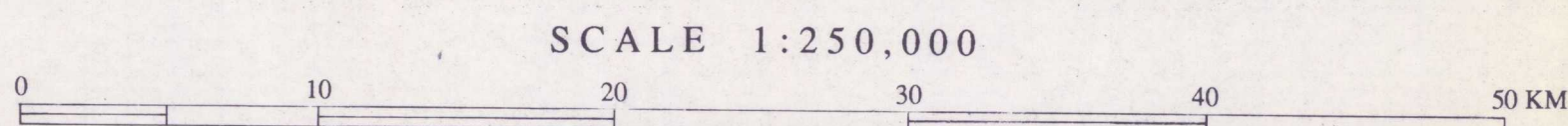
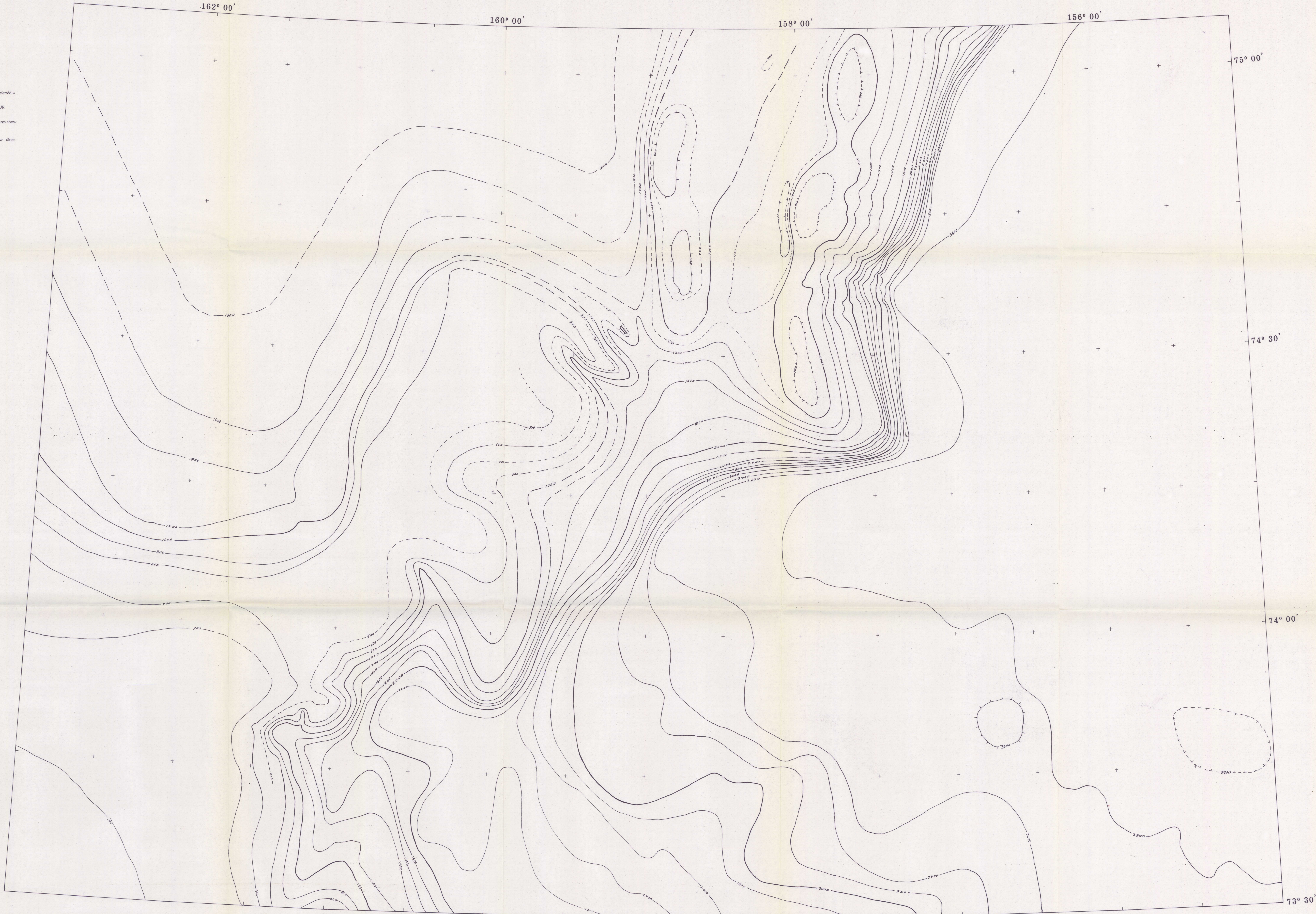
The U.S.G.S. soundings were converted to depth using a constant velocity of sound in the water column of 1,464 m/s (meters per second). The basis for this approximation of water velocity and the correction of other data sets is discussed in Hill and others (1984) and Greenberg and others (1981).

ACKNOWLEDGEMENTS

We are indebted to the U.S. Coast Guard for providing the icebreaker USCGC *POLAR STAR* as a platform for our surveys, and to Captain P.R. Taylor and crew for their support of the Geological Survey field party in 1988.

REFERENCES CITED

Grantz, A., and Mullen, M. W., 1991, Bathymetric map of the Chukchi and Beaufort Seas and adjacent Arctic Ocean, U.S. Geological Survey Miscellaneous Investigations Series Map 1-1182-I, scale 1:1,000,000.
Greenberg, Jonathan, Hart, P.E., and Grantz, Arthur, 1981, Bathymetric map of the continental shelf, slope, and rise of the Beaufort Sea north of Alaska: U.S. Geological Survey Miscellaneous Investigations Series Map 1-1182-A, scale 1:500,000.
Hill, E.R., Grantz, Arthur, May, S.D. and Smith, Marilyn, 1984, Bathymetric map of the Chukchi Sea: U.S. Geological Survey Miscellaneous Investigation Series Map 1-1182-D, scale 1:1,000,000.
Perry, R.K., Fleming, H.S., Weber, J.R., Kristofferson, Y., Hall, J.K., Grantz, A., Johnson, G.L., Cherkis, N.Z., and Larsen, B., 1986, Bathymetry of the Arctic Ocean: Geological Society of America Map and Chart Series, MC-56, scale 1:4,704,075.



BATHYMETRIC MAP OF SOUTHERN NORTHWIND RIDGE AND VICINITY, ARCTIC OCEAN BY MICHAEL W. MULLEN AND ARTHUR GRANTZ

1991

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards. Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Geological Survey.